

### **AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions of claims in this application.

Please cancel claims 10-15, without prejudice or disclaimer, as follows:

1. (Canceled).
2. (Original) An etching method for plasma-etching an  $\text{SiO}_2$  film layer covering an  $\text{SiN}_x$  film layer formed at a workpiece placed inside an air-tight processing chamber by raising to plasma a processing gas induced into said processing chamber, comprising
  - a first step in which said  $\text{SiO}_2$  film layer is etched by using a mixed gas containing at least  $\text{C}_4\text{F}_8$  and  $\text{CO}$  as said processing gas; and
  - a second step in which a switch is made to a mixed gas containing at least  $\text{C}_4\text{F}_8$  and  $\text{CH}_2\text{F}_2$  to be used as said processing gas to etch said  $\text{SiO}_2$  film layer immediately before said  $\text{SiN}_x$  film layer becomes exposed.
3. (Original) An etching method for plasma-etching an  $\text{SiO}_2$  film layer covering an  $\text{SiN}_x$  film layer formed at a workpiece placed inside an air-tight processing chamber by raising to plasma a processing gas induced into said processing chamber, comprising
  - a first step in which said  $\text{SiO}_2$  film layer is etched by using a mixed gas containing at least  $\text{C}_4\text{F}_8$  and  $\text{CO}$  as said processing gas; and
  - a second step in which a switch is made to a mixed gas containing at least  $\text{C}_4\text{F}_8$  and  $\text{CH}_2\text{F}_2$  to be used as said processing gas to etch said  $\text{SiO}_2$  film layer immediately after said  $\text{SiN}_x$  film layer becomes exposed.

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4. (Previously Presented) An etching method according to claim 2 or 3, wherein the flow rate ratio ( $\text{CH}_2\text{F}_2 / \text{C}_4\text{F}_8$ ) of  $\text{C}_4\text{F}_8$  and  $\text{CH}_2\text{F}_2$  in said mixed gas containing at least  $\text{C}_4\text{F}_8$  and  $\text{CH}_2\text{F}_2$  is set essentially within a range of 0.4 ~ 1.0.
5. (Previously Presented) An etching method according to claim 2 or 3, wherein the partial pressure corresponding to  $\text{C}_4\text{F}_8$  relative to the entire pressure of said mixed gas containing at least  $\text{C}_4\text{F}_8$  and  $\text{CH}_2\text{F}_2$  is set essentially within a range of 0.4 (mTorr) ~ 0.8 (mTorr).
6. (Previously Presented) An etching method according to claim 2 or 3, wherein the density of plasma excited inside said processing chamber is set essentially within a range of  $1.5 \times 10^{10}$  (number of ions /  $\text{cm}^3$ ) ~  $1.2 \times 10^{11}$  (number of ions /  $\text{cm}^3$ ).
7. (Previously Presented) An etching method according to claim 2 or 3, wherein:  
said workpiece is placed on a mounting surface of a susceptor provided  
inside said processing chamber; and  
the temperature of said susceptor is set essentially within a range of 20 °C  
~ the heat resistance temperature of a photoresist layer constituting a  
mask pattern for said  $\text{SiO}_2$  film layer.
8. (Previously Presented) An etching method according to claim 2 or 3, wherein  
said mixed gas containing at least  $\text{C}_4\text{F}_8$  and  $\text{CH}_2\text{F}_2$  further contains an inert gas.

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9. (Original) An etching method according to claim 2 or 3, wherein said mixed gas containing at least  $C_4F_8$  and CO further contains an inert gas.

10-15. (Canceled).

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